

# NASA TECH BRIEF



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## Principles of Optical-Data Processing Techniques

There is currently an abundance of literature on all phases of optical-data processing but the bulk of it is written at an advanced level (as for theoretical physicists) with the assumption that readers are familiar with all basic principles. For an engineer interested in, or perhaps required to gain an understanding in this new field and its many related disciplines, this can pose a formidable problem.

A document has been prepared which is restricted to a level which will convey the basic principles involved to those having a general technical background. Mathematical discussions are included but are not required for a basic understanding, however they serve as introduction to more advanced texts for those interested in pursuing the subject matter in greater detail. A section on fundamental principles of optics provides guidelines for selection of those principles to be pursued in a given study. The document also

indicates those disciplines that must be mastered before a complete working knowledge can be achieved, including optics, photography, mathematics, electronics, and holography as related to optical-data processing. The document provides a sound basis for understanding most state-of-the-art developments in the field of optical data processing.

### Note:

Copies of this document may be requested from:  
Technology Utilization Officer  
Goddard Space Flight Center  
Greenbelt, Maryland 20771  
Reference: B68-10069

### Patent status:

No patent action is contemplated by NASA.

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(GSC-10271)

Category 01